

What is claimed is:

1. An optical arrangement disposed with respect to an optical axis, the optical arrangement comprising:

a plane perpendicular to said optical axis;

a light source for generating a light beam along said optical axis and the light of said light beam in said plane being polarized either tangentially to said optical axis or radially with respect to said optical axis;

at least one lens mounted in or next to said plane;

said lens being made of single-axis, double-refracting material defining an optical crystal axis; and,

said optical crystal axis being aligned parallel to said optical axis of said optical arrangement.

2. The optical arrangement of claim 1, wherein said single-axis, double-refracting material of said lens is  $\text{MgF}_2$ .

3. The optical arrangement of claim 1, wherein said plane is a pupillary plane.

4. The optical arrangement of claim 1, wherein said lens takes up said light beam with a numerical aperture of up to 0.1.

5. The optical arrangement of claim 1, wherein said light source is a laser and said laser includes a resonator for coupling out tangentially or radially polarized light.

6. The optical arrangement of claim 1, wherein said lens is a first lens and said material is a first material, said optical

arrangement further comprising at least a second lens made of a second material different than that first material.

7. The optical arrangement of claim 6, wherein said second material is crystal.

8. The optical arrangement of claim 7, wherein said crystal is  $\text{CaF}_2$ .

9. The optical arrangement of claim 7, wherein said crystal is  $\text{BaF}_2$ .

10. A microlithographic projection exposure system defining an optical axis, said system comprising:

a UV light source for generating a light beam along said optical axis;

5 an illumination system arranged on said optical axis downstream of said UV light source;

a projection objective arranged downstream of said illumination system; and,

10 one of said illumination system and said projection objective including an optical arrangement; and,

said optical arrangement including:

a plane perpendicular to said optical axis;

15 the light of said light beam in said plane being polarized either tangentially to said optical axis or radially with respect to said optical axis;

at least one lens mounted in or next to said plane;

said lens being made of single-axis, double-refracting material defining an optical crystal axis; and,

20           said optical crystal axis being aligned parallel to said  
optical axis of said optical arrangement.

11. The system of claim 10, wherein said single-axis,  
double-refracting material of said lens is  $\text{MgF}_2$ .

12. The system of claim 10, wherein said plane is a pupillary  
plane.